

NELP Evaluates Shop Towels

Re-use Program

Study Reveals Potential for Significant Cost Savings

The Navy Environmental Leadership Program (NELP), in cooperation with Commander, Southern Division, Naval Facilities Engineering Command (SOUTHDIV), and Shaw Environmental, Inc. completed an evaluation of an afloat trial shop towel laundering program using home-ported ships at Naval

Station (NAVSTA) Mayport, Florida. The purpose of the Shop Towels Re-use Program Evaluation Study was to introduce the use of cotton shop towels to afloat activities and to encourage them to return the towels to be cleaned and reused. Previous practice was to use bundled rags, disposing them as waste when used. Use of the shop towels reduce the quantity of used rags disposed, thus reducing NAVSTA Mayport's waste disposal costs and the overall burden on local landfills.

"The Shop Towel Re-use Program Evaluation Study is another example of NELP's tasking by the Navy to identify innovative technical initiatives in all areas of environmental management including clean up, compliance, pollution prevention, and stewardship of natural resources," said LCDR Joseph Campisano, NELP Officer.

Background

Afloat activities at NAVSTA Mayport have traditionally used baled rags for cleaning purposes. The Hazardous Material Minimization Center estimated that ship personnel purchase 10 to 20 bales (500 rags per bale @ \$41.98 per bale) at a time. The rags

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are used once and then disposed as oily rags or paint rags, creating a significant waste stream for NAVSTA Mayport. Most rags are disposed as non-hazardous solid waste, but some used rags may be disposed as hazardous waste. All rags and towels must be classified regarding the type of waste stream and are disposed of accordingly. In 2001, 29 tons of oily rags were removed from NAVSTA Mayport ships at a cost of \$35,000 (handling and disposal costs).

Alternatively, shop towels collected and cleaned by a licensed launderer are not considered a solid waste and therefore are not subject to a hazardous/non-hazardous waste determination. Use of shop towels that can be laundered and reused can decrease the quantity of waste generated resulting in reduced costs for purchase and disposal of rags or towels. Shop towels are only required to be replaced (\$0.34 per towel) when they can no longer be reused or are lost.

The Shop Towel Re-use Program Evaluation Study included the use of 100 percent cotton (15 inches by 15 inches) shop towels that were purchased and distributed to the USS THE SULLIVANS (DDG 68) and USS VICKSBURG (CG 69) by the Hazardous Material Minimization Center. The initial distribution consisted of 500 towels to each ship. The initial cost of the distribution was covered by NAVSTA Mayport's Environmental Department as an inducement for participation in the program and to help terminate the practice of purchasing/using baled rags. The laundry costs (\$0.05 per

dirty towel) for the used towels were free to the ships and covered by the Environmental Office budget through a contract with a local laundry service. (DDG 68 and DDG 69: FY99 demand data indicates they purchased 67 bales of rags for the year, or an average of 5.58 bales per month. The annual cost would have been \$1,405 and disposal costs would have been \$1,655 at 60 cents a pound. Using shop towels vice baled rags, annually they would have needed 5,820 shop towels for a laundering cost of \$291. In other words, if the two ships had purchased and disposed of 67 bales of rags, it would have cost them \$3,060 instead of \$291 for shop towels. Total cost avoidance would have been \$2,769.)



Pallets of shop towels.

During the study, Hazardous Material Minimization Center personnel coordinated the clean and dirty towel exchange. The towel users were instructed to collect used towels in a plastic garbage bag and to call Hazardous Material Minimization Center personnel to pick up the dirty towels and exchange dirty for laundered towels. A portable scale was used to weigh the dirty towels at the

ABOUT NELP

The Chief of Naval Operations chartered NELP at NAVSTA Mayport in 1993. The mission of NELP is to support Navy warfighter operational readiness through the identification, demonstration and communication of innovative ways to perform daily operations while minimizing the impacts on our environment and promoting environmental stewardship. The program serves as a test bed for new and innovative technology and focused management that addresses the full spectrum of environmental issues. NELP exports its successes and lessons learned throughout the Navy and Marine Corps family.



time of pick up from the ships. The weight was recorded and the dirty towels were counted prior to transfer to the Hazardous Material Minimization Center. Hazardous Material Minimization Center personnel were then to coordinate the exchange of dirty towels for clean laundered towels with the contracted laundry service.

Lessons Learned

Information and lessons learned from the study were compiled based on information collected from representatives from the ships and Hazardous Material Minimization Center.

- Details of how to store the used rags, how to obtain replacement rags and how to remove the used rags from the ships while deployed were not included in the original

program description. This caused ship personnel to rely on the familiar process of using rags once and disposing after use.

- Many of the dirty shop towels were discarded while on board instead of being collected for laundering and reuse. Ship personnel who sign for new towel issues stated that the actual shop towel users are not directly responsible for towel collection and return. This means that dirty towels are usually lost and not put aside for turn-in and eventual reuse.
- Ship personnel purchased bales of rags on a perceived low cost while not factoring in the cost of eventual treatment or disposal of rags. Shop towel users do not yet understand the benefits and cost savings of towel cleaning and towel reuse.
- Ship personnel using the shop towels seem to be satisfied with the performance of the laundered towels. The Hazardous Material Minimization Center had no negative reports on shop towel performance.

Summary

Results from the Shop Towel Re-use Program Evaluation Study indicated that there is a potential for a significant cost savings for the Navy when replacing single use rags with laundered shop towels. Both purchasing funds and waste disposal funds are saved when using laundered shop towel on ships. However, in order to realize the savings, procedures must be established among the shop towel end users to guarantee that towels are not thrown away but returned for laundering and reuse.

There is also a need for explicit instructions for ship personnel concerning the

FOR MORE INFO

For more information about the Navy's Shop Towel Re-use Program, read our article "Shop Towel Re-use Program Saves Money and Improves Quality" in the spring 2003 issue of Currents magazine.



Contract rags aboard the USS Stennis.



shop towel program steps, potential cost savings, and storage space reduction when not using baled rags (9 cubic feet for rags versus 6 cubic feet per for shop towels). ⚓

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